U.S. Environmental Protection Agency
Applicability Determination Index

Control Number: 0200018

Category: NSPS
EPA Office: Region 3
Date: 02/13/2002
Title: Alternative ASTM Test Method for Fuel Nitrogen Content
Recipient: Pamela F. Faggert
Author: Judith Katz

Subparts: Part 60, GG, Stationary Gas Turbines

References: 60.334

Abstract:

Q: Will EPA approve ASTM Test Method D5762-01 to monitor nitrogen content for turbines?

A: Yes. This test method has the necessary reproducibility and repeatability and accuracy to be used in lieu of ASTM Test Method D3228 for the monitoring requirement under Subpart GG.

Letter:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

In Reply Refer To: 3AP12

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Pamela F. Faggert, Vice President
Dominion Energy
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Re: Approval Request for Alternative ASTM Test Method for Use Under Subpart GG for the Ladysmith Combustion Turbine Station

Dear Ms. Faggert:

The Philadelphia Regional Office of the U.S. Environmental Protection Agency (Region III) has received and reviewed your request, dated December 17, 2001, for use of an alternative monitoring method under the New Source Performance Standards program, 40 C.F.R. Part 60, Subpart GG for monitoring fuel bound nitrogen content of the distillate oil fired at the Ladysmith Combustion Turbine Station in Caroline County, Virginia. This monitoring is required under the given regulations as a part of a control procedure for NOX emissions from stationary gas turbines. It is our understanding that the facility has been using ASTM Test Method D3228 which is titled, "Standard Test Method for Total Nitrogen in Lubricating Oils and Fuel Oils by Modified Kjeldahl Method, since the emission source has been subject to Subpart GG but now wishes to use ASTM Test Method D5762-01 titled, "Standard Test Method for Nitrogen in Petroleum and Petroleum Products by Boat-inlet Chemiluminescence" due to a change at the contract laboratory and concern about the reliability of the laboratory test results using the older method.

Based on RTP's analysis of ASTM D5762-01, this test method is acceptable for use in this instance as Dominion's distillate fuel oil nitrogen content of greater than 100 micrograms per gram falls within the scope of this test method and this method is written with sufficient detail and contains sufficient quality control and quality assurance requirements. ASTM has conducted a study and determined both a repeatability and reproducibility statement for this test method. If both of these statements are satisfied by Dominion's laboratory analyst properly following the test method procedures, EPA concluded that the test method is acceptable for this application (See memorandum from Terry Harrison to James W. Hagedorn of Region III).

In addition, Mr. Philip Knause of Dominion indicated that test results that the Company has received comparing the two test methods on the same samples and also utilizing different laboratories for the same samples reportedly shows that ASTM D5762-01 provides a lower nitrogen content result than that provided by ASTM D3228 as applied by their laboratory. If this is correct, allowing the use of ASTM D5762-01 at this facility lowers the allowable emission rate of NOx which requires Dominion to apply additional control of NOx emissions. We, therefore, approve Dominion's use of ASTM D5762-01 for this application at this facility for monitoring of operations required in Section 60.334. This response has been coordinated with Research Triangle Park (RTP) personnel who have the primary responsibility for approving alternative test methods under the NSPS program according to the delegation manual but this authority has been redelegated to the Air Division Director of the Regional Offices.

Should you have any comments or questions in regard to this matter, do not hesitate to contact James W. Hagedorn, of my staff, at (215) 814-2161.

Sincerely,

Judith M. Katz, Director
Air Protection Division

Attachment

cc: Terry Harrison, RTP
Rafael Sanchez, OECA